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Facts about the honeybee and honey

What types of honeybees are there and what are their jobs?

- There are three types of honeybees that live in a beehive: a queen bee, worker bees and drones
- The worker bees and the queen are female bees but only the queen is allowed to lay eggs and make babies
- The drones are male bees. Their only job is to mate with the queen and the queen's job is to lay eggs. In summer, the queen bee will lay around 1,500 eggs every day
- The worker bees have lots of jobs including finding pollen from flowers, collecting honey and water, building new honeycomb (which holds the honey and pollen) and taking care of baby bees (larvae)
- The worker bees are the only bees which sting, and they will only do so if they feel threatened
- In an average beehive during the summer months, you can expect to find one queen bee, 250 drones, 60,000 worker bees, 7,000 eggs, 10,000 larvae and 20,000 pupae
- Hives also have guard bees and nurse bees. Guard bees are responsible for making sure only honeybees that belong to the colony enter the hive. Nurse bees feed, clean and make food for the larvae, queen and drones

The honeybee life cycle

- Honeybees start off as eggs which hatch into baby bees called larvae. They then go through their non-feeding stage, where they are called pupae, before becoming a grown honeybee
- Honeybee workers only live four to eight weeks but during that time they fly up to 800km and never sleep. Drones can live up to four months and the queen bee lives for two to three years, some living up to six
- The development of a bee from egg to adult takes sixteen days for a queen, 21 days for a worker and 24 days for a drone

The honeybee's anatomy

- On the head, the honeybee has five eyes, a pair of antennae, a tongue and jaws called mandibles
- Honeybees have two stomachs: one is an ordinary stomach, and the other is called a honey stomach
- The honeybee has two pairs of wings and three pairs of legs
- Insects like bees have an exoskeleton (on the outside) while we humans have bones on the inside
- The honeybee's brain is only about the size of a pinhead, but it has an amazing capacity to learn and remember things. A honeybee is able to make extremely complex calculations on travel distance and foraging efficiency
- A worker bee's brain has the densest neuropile tissue of all animal species, which means they are very clever

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What do bees eat?

- Honey is the main food source for the bee. In the warmer months, honeybees are very busy collecting nectar from flowers to make enough food stores for the bees in their hive during winter. This is because it's too cold for the bees to go out and find honey in winter
- Bees love fruit trees and flowering plants – you can help honeybees by having these bee-friendly plants in your garden
- Bees get very thirsty on their travels. They like water to be provided for them in your garden, in a saucer with pebbles or twigs so that they have something to stand on and drink



How do bees make honey?

- A honeybee is an insect that collects nectar from flowers and turns it into honey. It does this by sticking its long tongue, or proboscis, into flowers to collect the nectar
- The honeybee stores the nectar in its tummy, to carry it back home. While the nectar is in the bee's tummy, it mixes with enzymes and proteins, which turns the nectar into honey
- To thicken the honey, bees put it into the honeycomb, where they store the honey and pollen, and evaporate the water in the honey by fanning their wings

Interesting facts about bees

- Guard bees identify who belongs to the colony by their smell – beehives have unique odours. The individual bees who live in the same beehive smell enough alike that the guards can recognise them
- Honeybees communicate by 'dancing'. They do a waggle dance which tells other bees the distance and direction of food
- The honeybee is the only insect which produces food eaten by humans
- A honeybee flies at approximately 24 kph
- The honeybee beats its wings 11,400 times per minute, which makes their buzzing sound
- In New Zealand, we have approximately 390,500 beehives

Fun facts about honey

- Worker bees produce about 1/12th of a teaspoon of honey in their lifetime
- Bees have been producing honey for at least 150 million years
- On one flight from the hive to collect honey, a honeybee will visit between 50 and 100 flowers
- A honeybee must visit about 4 million flowers to produce 1kg of honey
- One beehive of honeybees can produce up to 150kg of honey per year
- Bees use their antennae to smell. They can detect nectar 2 kms away
- New Zealand produces approximately 9,000 tonnes of honey every year, and about half of that is exported
- In 2011, honey exports were valued at around \$100 million
- Manuka honey is world-renowned for its antiseptic properties. People pay up to \$80 per kg for New Zealand manuka honey